State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii 96813

April 13, 2007

Board of Land and
Natural Resources
Honolulu, Hawaii

REQUEST FOR AUTHORIZATION/APPROVAL TO ISSUE NORTHWESTERN HAWAIIAN ISLANDS (NWHI) RESEARCH PERMIT TO DR. LESZEK KARCZMARSKI, TO ACCESS KURE ATOLL WATERS TO MONITOR THE KURE SPINNER DOLPHIN POPULATION, FROM MAY 16, 2007 TO OCTOBER 31, 2007.

The Division of Aquatic Resources (DAR) hereby submits a request for your authorization and approval for issuance of a NWHI research permit to applicant Dr. Leszek Karczmarski of Texas A&M University, pursuant to §13-60.5, *Hawaii Administrative Rules*, and § 187A-6, *Hawaii Revised Statutes*, and all other applicable laws and regulations. The research permit, described below, will allow this activity to occur in the waters of the NWHI State Marine Refuge at Kure Atoll (0-3 miles), particularly within Kure Atoll lagoon. These research activities – limited to the photographing of dorsal fins of spinner dolphins and recording of their location - are part of an ongoing study.

The activities covered under this permit will occur from May 16, 2007 through October 31, 2007, as outlined below and in the attached permit application.

INTENDED ACTIVITIES

The purpose of the project is to continue monitoring the Hawaiian spinner dolphin (*Stenella longirostris*) population at Kure Atoll and environs, and provide baseline data on population size, inter-island movement, residence rate, stock structure and diversity, social structure, patterns of behavior and habitat use. These data will aid in management by helping to identify current status, trends, and/or potential threats to the population. Individual photo-identification surveys will be conducted using a small outboard motor boat, and following a standard boat-survey and data collection protocol. Dolphins will be photographed using a Canon D20 digital camera equipped with a variable length (zoom 100-400 mm) image-stabilized lens. Each photographic image will be stored onto a 2 GB compact flash media card with a 40 GB Mindstor media device for backup and storage of images in the field. Individual spinner dolphins will subsequently be identified following standard laboratory procedures. The computer-assisted individual-identification package "Stenella" will be used to assist with processing images and data management. Each image will be assessed on the bases of image quality and the distinctiveness of an individual.

REVIEW PROCESS

The permit application was received by the Division of Aquatic Resources on or before February 1, 2007. It was sent out for review and comment to the following scientific entities: Division of Aquatic Resources staff, Papahānaumokuākea Marine National Monument, NOAA Pacific Islands Regional Office (NOAA-PIRO), and US Fish and Wildlife Service. Native Hawaiians from the Office of Hawaiian Affairs (OHA), and the Kahoolawe Island Reserve Commission (KIRC) were also consulted.

Comments were received from NOAA-PIRO, which submitted favorable reviews.

No Comments were received from the DAR, USFWS, OHA or KIRC.

IMPACT ANALYSIS

The results of the research should enhance managers' understanding of the dolphins, thereby allowing the development and implementation of management measures necessary and appropriate to protect the group and the species in the Monument. The enhanced understanding of dolphin population dynamics contributes to a positive cumulative impact of increasing the effectiveness of resource management at Kure Atoll. Although there is the potential to disturb some marine life, including dolphins, overall photographic collection activities should have minimal impact on Monument resources.

FINAL STAFF RECOMMENDATIONS:

DAR staff is of the opinion that Applicant has properly demonstrated valid and adequate justification for their application and should be allowed to enter the NWHI State waters and to conduct the activities therein as specified in the application with the following special instructions and conditions, which are in addition to the General Conditions imposed by the Application Guidelines:

1. Direct that Applicant and associated staff shall be briefed on Native Hawaiian cultural traditions and practices at least once a year, and that Applicant shall consider providing additional access for Native Hawaiian cultural studies or practices as appropriate.

2. Direct that the hulls of the support vessel and all tender vessels must be certified and documented free of fouling organisms before each cruise to the NWHI. This procedure must be performed prior to each departure from the Main Hawaiian Islands. Inspection records must be immediately submitted to DAR upon request.

3. Swimming and snorkeling are allowed only for research activities and for personal hygiene.

4. Direct that all forms of fishing, no matter whether for subsistence, sustenance, commercial, or recreational purposes, are prohibited in State waters.

RECOMMENDATION:

"That the Board authorize and approve, with stated conditions, a Research Permit to Dr. Leszek Karczmarski of Texas A&M University, for activities and access within the State waters of the NWHI for the purpose of monitoring the Kure Spinner Dolphin population".

Respectfully submitted,

DAN POLHEMUS
Administrator

APPROVED FOR SUBMITTAL

PETER T. YOUNG
Chairperson

Department of Land and Natural Resources
Northwestern Hawaiian Islands Permit Application Review

Permit Type: Management ☐ Recreation ☐ Research ☒
Education ☐ Cultural ☐ Special Ocean Use ☐

Working Title: Authorization/Approval to issue a Northwestern Hawaiian Islands (NWHI) Research Permit to Dr. Leszek Karczmarski of Texas A&M University to access waters surrounding Kure Atoll in order to survey the Kure Spinner Dolphin population.

Project Applicant: Texas A&M University **Principle Investigator**: Dr. Leszek Karczmarski

Project Location(s) *(Both State Waters and Monument)*: Kure Atoll

Project Dates and Duration: May 16, 2007 through October 31, 2007

Project Précis & Background *(Summary of project and why this is proposed)*:

The purpose of the project is to continue monitoring the spinner dolphin population at Kure Atoll and environs, and provide baseline data on population size, inter-island movement, residence rate, stock structure and diversity, social structure, patterns of behavior and habitat use. These data will aid in management by helping to identify current status, trends, and/or potential threats to the population. Individual Photo-Identification surveys will be conducted using a small outboard motor boat, and following a standard boat-survey and data collection protocol. .

Are there other relevant permits that have/will be issued with regard to this project? Yes ☐
No ☒

What is the relevance to management and/or the improved understanding of NWHI & MHI?
The purposes of the Papahanaumokuakea Marine National Monument Proclamation include the preservation and management of the scientific resources of the Monument. The proper management requires a good foundation of knowledge of the baseline condition of the Monument resources.

Could work be conducted outside the NWHI?: Yes ☐ **No** ☒

Explain: The spinner dolphin group is resident to that particular area of the Monument, so the research must take place in-situ.

Has Applicant been granted a permit from the State in the past? Yes ☒ **No** ☐
If so, please summarize past permits:

In 2006, Dr.Karczmarski was granted permit number DLNR.NWHI06R012 to survey the Kure Spinner Dolphin population.

Have there been any a) violations: Yes ☐ **No** ☒ **b) late/ incomplete reports: Yes** ☐ **No** ☒

Any other relevant concerns from previous permits?_____

Impact Analysis

The results of the research should enhance managers' understanding of the dolphins, thereby allowing the development and implementation of management measures necessary and appropriate to protect the group and the species in the Monument. The enhanced understanding of dolphin population dynamics contributes to a positive cumulative impact of increasing the effectiveness of resource management at Kure Atoll. Although there is the potential to disturb some marine life, including dolphins, the photographic collection should have minimal impact on Monument resources.

Recommendations:

DAR Staff: Approve this permit application ☒ Reject this permit application ☐

NH CWG: Approve this permit application ☐ Reject this permit application ☐

Additional Comments:

Northwestern Hawaiian Islands Marine National Monument

Permit Application

NOTE: ***This Permit Application (and associated Instructions) are for activities to be conducted in the Northwestern Hawaiian Islands Marine National Monument, including Hawaiian Islands National Wildlife Refuge, the Midway Atoll National Wildlife Refuge, Battle of Midway National Memorial, Northwestern Hawaiian Islands State Marine Refuge, Kure Atoll Hawaii State Seabird Sanctuary, and the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve. The Co-Trustees are required to determine that issuing the requested permit is compatible with the findings of Presidential Proclamation 8031. Within this Application, please provide all information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historical and cultural resources of the NWHI Marine National Monument (Monument).***

Summary Information

Applicant name:
Dr. Leszek Karczmarski

Permit categories:
☒ Research – Please fill out Sections A-D (as applicable) and Appendix A
☐ Conservation and Management - Please fill out Sections A-D (as applicable) and Appendix A
☐ Education - Please fill out Sections A-D (as applicable) and Appendix B
☐ Native Hawaiian Practices - Please fill out Sections A-D (as applicable) and Appendix C
☐ Recreation (Midway ONLY) - Please fill out Sections A-D (as applicable) and Appendix D
☐ Special Ocean Use - Please fill out Sections A-D (as applicable) and Appendix E

Briefly describe permit activity:
The purpose of this project is to continue monitoring the spinner dolphin population at Kure Atoll and environs, and provide baseline data on population size, inter-island movement, residence rate, stock structure and diversity, social structure, patterns of behavior and habitat use. These data will aid in management by helping to identify current status, trends, and/or potential threats to the population. Individual Photo-Identification surveys will be conducted using a small outboard motor boat, and following a standard boat-survey protocol (Würsig & Jefferson 1990) and a data collection protocol used effectively in our studies of spinner dolphins in NWHI to date (e.g. Karczmarski et al. 2005). Dolphins will be photographed using a Canon D20 digital camera equipped with a variable length (zoom 100-400 mm) image-stabilized lens. Each photographic image will be stored onto a 2 GB Compact Flash media card with a 40 GB Mindstor media device for backup and storage of images in the field. Individuals will subsequently be identified following standard laboratory procedures (Karczmarski & Cockcroft 1998), and the computer-assisted individual-identification package "Stenella" (G. Gailey & L. Karczmarski, unpublished) will be used to assist with processing images and data management. Each image will be assessed on the bases of image quality and the distinctiveness of an individual, to minimize unequal catchability related biases (following Karczmarski et al. 2005), and only the highest quality photographic images of distinctive individuals will furnish the ID-catalogue. .

☒ This application is for a RENEWAL of an existing permitted project.
☐ This application is for a NEW project.

When will the activity take place?
From: 1 May 2007 To: 31 September 2007

NOTE: INCOMPLETE APPLICATIONS WILL NOT BE CONSIDERED

Please Send Permit Applications to:
NWHI Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
nwhipermit@noaa.gov
PHONE: (808) 397-2660 FAX: (808) 397-2662

NOTE: SUBMITTAL VIA ELECTRONIC MAIL IS PREFERRED BUT NOT REQUIRED. FOR ADDITIONAL SUBMITTAL INSTRUCTIONS, PLEASE SEE PG 7.

Section A - Applicant Information

1. Applicant

Name (last, first, middle initial): Karczmarski Leszek

Title: Dr.

2. Mailing address (street/P.O. box, city, state, country, zip):

Texas A&M University
Institute of Marine Life Sciences
Marine Mammal Research Program
5007 Avenue U, MMRP
Galveston, TX 77551

Phone: 409-740-4718

Fax: 409-740-4717

Email: karczmal@tamug.edu and leszek@hawaii.edu

For students, major professor's name, telephone and email address: n/a

3. Affiliation (institution/agency/organization directly related to the proposed project):

Institute of Marine Life Sciences
Texas A&M University
5007 Avenue U, MMRP
Galveston, TX 77551

and

Department of Land and Natural Resources
Division of Forestry and Wildlife
2135 Makiki Heights Dr.
Honolulu, HI 96822

4. Additional persons to be covered by permit:

Cynthia Vanderlip
Department of Land and Natural Resources
Division of Forestry and Wildlife
2135 Makiki Heights Dr.
Honolulu, HI 96822
cell: (808) 352-6218
Fax: (808) 973-9781

Dr. David Johnston
National Marine Fisheries Service, NOAA
Pacific Islands Fisheries Science Center
2570 Dole St.
Honolulu, HI 96822

Section B: Project Information

5a. Project location(s):

☐ Nihoa Island	☐ Land-based	☐ Ocean-based
☐ Necker Island (Mokumanamana)	☐ Land-based	☐ Ocean-based
☐ French Frigate Shoals	☐ Land-based	☐ Ocean-based
☐ Gardner Pinnacles	☐ Land-based	☐ Ocean-based
☐ Maro Reef		
☐ Laysan Island	☐ Land-based	☐ Ocean-based
☐ Lisianski Island, Neva Shoal	☐ Land-based	☐ Ocean-based
☐ Pearl and Hermes Atoll	☐ Land-based	☐ Ocean-based
☐ Midway Atoll	☐ Land-based	☐ Ocean-based
☒ Kure Atoll	☐ Land-based	☒ Ocean-based
☐ Other		

NOTE: Please note there is a fee schedule for people visiting Midway Atoll National Wildlife Refuge via vessel and aircraft.

Location Description:
All activities will take place within Kure Atoll lagoon.

5b. Check all applicable regulated activities proposed to be conducted in the Monument:

☐ Removing, moving, taking, harvesting, possessing, injuring, disturbing, or damaging any living or nonliving monument resource

☐ Drilling into, dredging, or otherwise altering the submerged lands other than by anchoring a vessel; or constructing, placing, or abandoning any structure, material, or other matter on the submerged lands

☐ Anchoring a vessel

☐ Deserting a vessel aground, at anchor, or adrift

☐ Discharging or depositing any material or matter into the monument

☐ Touching coral, living or dead

☐ Possessing fishing gear except when stowed and not available for immediate use during passage without interruption through the monument

☐ Attracting any living monument resource

☐ Sustenance fishing (Federal waters only, outside of Special Preservation Areas, Ecological Reserves and Special Management Areas)

☐ Subsistence fishing (State waters only)

☐ Swimming, snorkeling, or closed or open circuit SCUBA diving within any Special Preservation Area or Midway Atoll Special Management Area

6. Purpose/Need/Scope *State purpose of proposed activities:*

Spinner dolphins (Stenella longirostris) are distributed throughout the Hawaiian Archipelago. They are regularly seen at all of the Main Hawaiian Islands, but only four locations in the Northwestern Hawaiian Islands: Kure Atoll, Midway Atoll, Pearl & Hermes Reef, and French Frigate Shoals. Our research has shown that spinner dolphins in the NWHI differ from spinner dolphins in the Main Hawaiian Islands in terms of behavior, social structure, population size, population genetic structure, and genetic diversity. In particular, spinner dolphins in the NWHI show more stable social groups, much smaller population sizes, and lower genetic diversity. These characteristics likely make spinner dolphins in the NWHI more vulnerable to environmental change, whether natural or human-induced. For example, a disease outbreak or an increase in tiger shark populations could have severe effects on these populations. The purpose of the proposed activities is to monitor the spinner dolphin population and provide baseline data on population size, dynamics, and trends, inter-island movement patterns, residence rate, stock structure and diversity, social structure, patterns of behavior, and habitat use patterns. These data will aid in management by determining current status and trends of the population, and by helping to identify current or potential threats to the population.

7. As explained further in the instructions, please provide any information that you believe will assist the Co-Trustees in determining how your proposed activities are compatible with the conservation and management of the natural, historical and cultural resources of the Monument:

The proposed activities follow on the Monument's goals of long-term conservation of the unique biological heritage of the NWHI Chain, in this specific case one of its marine species, the Hawaiian spinner dolphin. This project is a continuation of previous work, and therefore it provides long-term data which is important for the knowledge and accurate assessment of the dynamics and population trends of long-lived animals. These data will aid in management by helping to identify current or potential threats to the population; for instance, unusual mortality events caused by disease outbreaks would go unnoticed if baseline information on population structure and ecology is not known. Furthermore, documenting daily patterns of behavior (e.g. activity level) and preferred habitat usage within the lagoon (as documented by direct boat follows) helps managers to identify 'off limits areas' for other small boats working within the atoll, which is an information that can also be effectively applied in many other similar atoll locations in NWHI.

By furnishing base-line population data for a key delphinid species of the region, this work complements several other conservation and/or management projects (e.g. coral habitat mapping, ichthyofauna assessment, etc.) that are planned and/or currently taking place. Jointly with these other current and forthcoming research efforts, our work provides a significant contribution to the development of conservation measures that can effectively guide long-term management planning of the NWHI Marine National Monument.

8. Procedures:

Individual Photo-Identification surveys will be conducted using a small outboard motor boat, and following a standard boat-survey protocol (Würsig & Jefferson 1990) and a data collection protocol used effectively in our studies of spinner dolphins in NWHI to date (e.g. Karczmarski et al. 2005). These surveys will be carried out at a sea state of Beaufort scale < 4, and as much as possible will cover the entire inner lagoon. After location of a dolphin group and a scan c. 1-1.5 km radius for all other potential dolphins, the group will be approached at speeds < 2 knots. While the boat remains alongside the dolphin group, the group membership (ID photographs), size, relative cohesion, and general behavioral states will be recorded. Movement pattern will be monitored with a portable Geographic Positioning System (GPS), as will be the general features of the bottom topography. The dolphins will be photographed using a Canon D20 digital camera equipped with a variable length (zoom 100-400 mm) image-stabilized lens. Each photographic image will be stored onto a 2 GB Compact Flash media card with a 40 GB Mindstor media device for backup and storage of images in the field. Individuals will subsequently be identified following standard laboratory procedures (Karczmarski & Cockcroft 1998), and the computer-assisted individual-identification package "Stenella" (G. Gailey & L. Karczmarski, unpublished) will be used to assist with processing images and data management. Each image will be assessed on the bases of image quality and the distinctiveness of an individual, to minimize unequal catchability related biases (following Karczmarski et al. 2005), and only the highest quality photographic images of distinctive individuals will furnish the ID-catalogue.

Section C: Logistics

9. Other permits (list and attach documentation of all other related Federal or State permits):
Scientific Research Permit no. 1007-1629-01 issued to Dr. L. Karczmarski

9a. For each of the permits listed, please identify any permit violations or any permit that was suspended, amended, modified or revoked for cause. Please explain the circumstances surrounding the violation or permit suspension, amendment, modification or revocation.
Not applicable. The only modifications of the original permit included new Research Personnel.

10. Funding sources (Please attach copies of your budget, specific to proposed activities under this permit and include funding sources. Please see instructions for more information):
The core expenses of the fieldwork will be covered by L. Karczmarski's personal money; all core equipment (photographic gear) is already available, and negotiations with potential extramural sponsors are currently underway. Facility support at Kure Atoll is provided by DLNR/DOFAW. Subsequent lab expenses for photo-identification mark-recapture analyses and population modeling will be covered by L. Karczmarski's private funds, research support through Texas A&M University and the Whale Unit of the University of Pretoria.

11. Time frame:
Activity start: 1 May 2007
Activity completion: 31 September 2007

Dates actively inside the Monument:
From: 1May 2007
To: 31 September 2007

Please describe any limiting factors in declaring specific dates of the proposed activity at the time of application:
The start and end time depends on complex logistics, including transportation, availability of field personnel and their other duties, and the final budget that will be secured by the time of commencement of the field work. The current federal permit covers the majority of the field season, and the Principal Investigator is in a process of extending this permit for another 5-year research period.

Personnel schedule in the Monument:
Ms Cynthia Vanderlip, field researcher and Co-Investigator on this application, will arrive at Kure Atoll in early May, and it is anticipated that she will remain at Kure Atoll through late September 2007.

12. Please indicate (with attached documentation) what insurance policies, bonding coverage, and/or financial resources are in place to pay for or reimburse the Monument trustees for the necessary search and rescue, evacuation, and/or removal of any or all persons covered by the permit from the Monument:

13. Please check the appropriate box to indicate how personnel will enter the Monument:

☒ Vessel
☐ Aircraft

Provide Vessel and Aircraft information:
NOAA research vessel

14. What certifications/inspections do you have scheduled for your vessel? Please fill in scheduled date (attach documentation):

☐ Rodent free, Date:
☐ Tender vessel, Date:
☐ Ballast water, Date:
☐ Gear/equipment, Date:
☐ Hull inspection, Date:

15. Vessel information (NOTE: if you are traveling aboard a National Oceanic and Atmospheric Administration vessel, skip this question):
Vessel name:
Vessel owner:
Captain's name:
IMO#:
Vessel ID#:
Flag:
Vessel type:
Call sign:
Embarkation port:
Last port vessel will have been at prior to this embarkation:
Length:
Gross tonnage:
Total ballast water capacity volume (m3):
Total number of ballast water tanks on ship:
Total fuel capacity:
Total number of fuel tanks on ship:
Marine Sanitation Device:
Type :

How will you comply with the 'No Discharge' regulations stipulated in Presidential Proclamation 8031? Describe in detail. If applicable, please attach schematics of the vessel's discharge and treatment systems:

Other fuel/hazardous materials to be carried on board and amounts:

Please provide proof of a National Oceanic and Atmospheric Administration (NOAA) Office of Law Enforcement-approved Vessel Monitoring System (VMS). Please provide the name and contact information of the contractor responsible for installing the VMS system. Please also describe unit name and type:

VMS Email:
Inmarsat ID#:

16. Tender information:

On what workboats (tenders) will personnel, gear and materials be transported within the Monument? Please list the number of tenders/skiffs aboard and specific types of motors:

Section D: Additional Information for Land Based Operations

17. Proposed movement of personnel, gear, materials, and, if applicable, samples:
All research activities will take place within the atoll lagoon. Movement of personnel and gear will be only between the beach near the jetty at Green Island and the DLNR/DOFAW field station facilities on the island.

18. Room and board requirements on island:
Room and board on the island will be that of DLNR/DOFAW field station at Kure Atoll. All equipment and supplies will be brought to the island at the beginning of the field season; all equipment, waste material, and all unused supplies will be removed from the island at the end of the field season.

19. Work space needs:
All work space needs are those of DLNR/DOFAW field station at Kure Atoll, and they are perfectly suitable for the needs of the project.

With knowledge of the penalties for false or incomplete statements, as provided by 18 U.S.C. 1001, and for perjury, as provided by 18 U.S.C. 1621, I hereby certify to the best of my abilities under penalty of perjury of that the information I have provided on this application form is true and correct.

Signature Date

PLEASE SEND ONE SIGNED APPLICATION VIA MAIL TO THE MONUMENT OFFICE BELOW:

NWHI Marine National Monument Permit Coordinator
6600 Kalaniana'ole Hwy. # 300
Honolulu, HI 96825
FAX: (808) 397-2662

DID YOU INCLUDE THESE?
- ☐ Applicant CV/Resume/Biography
- ☐ Electronic and Hard Copy of Application with Signature
- ☐ Map(s) or GPS point(s) of Project Location(s), if applicable
- ☐ Funding Proposal(s)
- ☐ Funding and Award Documentation, if already received
- ☐ Documentation of Insurance, if already received
- ☐ Documentation of Inspections
- ☐ Documentation of all required Federal and State Permits or applications for permits
- ☐ Statement of information you wish to be kept confidential

Appendix A: Research OR Conservation and Management Application

NOTE: If land or marine archeological activities are involved, please contact the Monument Permit Coordinator at the address on the general application form before proceeding, as a customized application will be needed. For more information, please contact the Monument office on the first page of this application.

1a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):
All research activities are limited to taking photographs of dorsal fins of spinner dolphins (Stenella longirostris) and recording their location within Kure lagoon. There will not be any direct contact with any of the animals.

Common name:
n/a

Scientific name:
n/a

& size of specimens:
n/a

Collection location:
n/a

☐ Whole Organism ☐ Partial Organism

1b. What will be done with the specimens after the project has ended?
n/a

1c. Will the organisms be kept alive after collection? ☐ Yes ☐ No
n/a

• Specific site/location:
n/a

• Is it an open or closed system? ☐ Open ☐ Closed
n/a

• Is there an outfall? ☐ Yes ☐ No
n/a

• Will these organisms be housed with other organisms? If so, what are the other organisms?
n/a

• Will organisms be released?
n/a

2. If applicable, how will the collected samples or specimens be transported out of the Monument?

n/a

3. Describe collaborative activities to share samples, reduce duplicative sampling, or duplicative research:

n/a

4a. Gear and materials:

Research activities are limited to taking photographs of dorsal fins of spinner dolphins and recording their location within Kure lagoon. There will not be direct contact with any of the animals; all research gear is limited to photographic equipment and digital storage media, and all research material is limited to the photographs taken.

4b. Please list all Hazardous Materials you propose to take to and use within the Monument:

n/a

5. Fixed installations and instrumentation:

n/a

6. Provide a time line for sample analysis, data analysis, write-up and publication of information:

Approximately 6-8 months for data analyses, and another 3-4 months for the incorporation of the new data to the existing long-term dataset. Several publications are currently underway, based on the research conducted through 2006. The new data will be incorporated to at least two of these manuscripts, with anticipated date of publication in late-2008.

7. List all publications directly related to the proposed project:

Published Peer-Reviewed Papers

Andrews, K.R., Karczmarski, L., Au, W.W.L., Rickards, S.H., Vanderlip, C.A., and Toonen, R.J. (2006). Patterns of genetic diversity of the Hawaiian spinner dolphin (Stenella longirostris). Atoll Research Bulletin 543: 65-73.

Karczmarski, L., B. Würsig, G. Gailey, K.W. Larson, and C. Vanderlip (2005). Spinner dolphins in a remote Hawaiian atoll: social grouping and population structure. Behavioral Ecology 16: 675-685.

Andrews, K. & Karczmarski, L. (2004). Barriers to gene flow in the Hawaiian spinner dolphin (Stenella longirostris). Pacific Science 58(1): 119-120 (abstract).

In Press

Gowans, S., Würsig, B. & Karczmarski, L. (2007). Delphinid social strategies: An ecological approach. Advances in Marine Biology xx: xxx-xxx.

In Preparation (final stage)

Karczmarski, L., Rickards, S., Gowans, S., Würsig, B. & Vanderlip, C. Intra-group dynamics of an insular spinner dolphin population in far-western Hawai'i. Proceedings of the Royal Society of London, Series B: Biological Sciences.

Karczmarski, L. & Rickards, S. How much fission-fusion is there? Social structure of an insular spinner dolphin population. In preparation for Animal Behaviour.

Contributions to Workshops and Symposia

Karczmarski, L., Rickards, S.H., Gowans, S., Andrews, K.R., Würsig, B. & Vanderlip, C. (2005). 'One for all and all for one': Intra-group dynamics of an insular spinner dolphin population. In: Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals, 12-16 December 2005, San Diego, CA, USA.

Andrews, K.R., Karczmarski, L., Bowen, B.W., Rickards, S.H., Au, W.W.L., Vanderlip, C. & Toonen, R.J. (2005). Intraspecific variability in gene flow corresponds with social systems and environment for the Hawaiian spinner dolphin (Stenella longirostris). In: Abstracts, Sixteenth Biennial Conference on the Biology of Marine Mammals, 12-16 December 2005, San Diego, CA, USA.

Karczmarski, L. (2005). Insular spinner dolphin populations in remote atolls of the far-western Hawaiian Archipelago. Invited talk. In Abstracts: Ninth International Mammalogical Congress (IMC 9), 31 July - 5 August 2005, Symposium: Insularity and Its Effects, 2 August 2005, Sapporo, Japan.

Karczmarski, L. & Wells, R.S. (2005). Social behavior and social evolution in delphinids. Ninth International Mammalogical Congress (IMC 9), 31 July - 5 August 2005, Symposium: 'Delphinid and Primate Social Ecology: A Comparative Overview', 1 August 2005, Sapporo, Japan.

Karczmarski, L., Andrews, K.R. & Rickards, S.H. (2005). Social dynamics of insular delphinid population: The spinner dolphin model. 'Delphinid and Primate Social Ecology: A Comparative Discussion', an international conference at Kyoto University, 28 - 30 July 2005, Kyoto, Japan.

Andrews, K.R. & Karczmarski, L. (2005). Ecological barriers to gene flow in the Hawaiian spinner dolphin. Evolution 2005 Conference. American Society of Naturalists, Society for the Study of Evolution, and Society of Systematic Biologists; University of Alaska Fairbanks, 10 - 14 June 2005, Fairbanks, Alaska, USA.

Andrews, K.R. & Karczmarski, L. (2005). Ecological and behavioral factors influencing patterns of interbreeding and genetic diversity in the Hawaiian spinner dolphin. Pacific Science, Albert L. Tester Memorial Symposium, University of Hawaii, 16-18 March 2005, Honolulu, HI, USA.

Karczmarski, L., Rickards, S., Würsig, B., Vanderlip, C. & Andrews, K.R. (2004). Population structure and connectivity of spinner dolphins in the northwestern Hawaiian atolls. In: Abstracts, Third Northwestern Hawaiian Islands Science Symposium, 2-4 November 2004, Honolulu, HI, USA.

Andrews, K., Au, W.W.L., Karczmarski, L., Rickards, S. & Vanderlip, C. (2004). Population assessment of the Hawaiian spinner dolphin (Stenella longirostris) through genetic analysis. In: Abstracts, Third Northwestern Hawaiian Islands Science Symposium, 2-4 November 2004, Honolulu, HI, USA.

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DID YOU INCLUDE THESE?

☐ Material Safety Data Sheets for Hazardous Materials

Appendix B: Education Application

1. Are you collaborating with others in any way to reduce duplicative activities in the Monument or elsewhere?

2. Gear and materials:

3. Fixed installations and instrumentation:

4. Is your proposed activity based on a State Department of Education Standards Based Curriculum? If so, please describe:

5. What materials, products or deliverables will be developed as a result of your proposed activity? Provide a time line for write-up and publication of information or production of educational materials:

6. List all publications/references directly related to the proposed project:

7a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):

Common name:

Scientific name:

& size of specimens:

Collection location:

☐ Whole Organism ☐ Partial Organism

7b. What will be done with the specimens after the project has ended?

7c. Will the organisms be kept alive after collection? ☐ Yes ☐ No

• Specific site/location:

• Is it an open or closed system? ☐ Open ☐ Closed

• Is there an outfall? ☐ Yes ☐ No

• Will these organisms be housed with other organisms? If so, what are the other organisms?

• Will organisms be released?

8. If applicable, how will the collected samples be transported out of the Monument?

Appendix C: Native Hawaiian Practices Application

1. Please state how the purpose and intent of the activity are appropriate and deemed necessary by traditional standards in the Native Hawaiian culture (pono), and demonstrate an understanding of, and background in, the traditional practice, and its associated values and protocols:

2. Please state how the activity benefits the resources of the Northwestern Hawaiian Islands and the Native Hawaiian community:

3. Please state how the activity supports or advances the perpetuation of traditional knowledge and ancestral connections of Native Hawaiians to the Northwestern Hawaiian Islands:

4. Will you be collecting any Monument resource? ☐ Yes ☐ No
If so, please provide the following information:

4a. Collection of specimens - collecting activities (would apply to any activity): organisms or objects (List of species, if applicable, attach additional sheets if necessary):

Common name and/or Scientific name:

& size of specimens:

Collection location:

☐ Whole Organism ☐ Partial Organism

4b. What will be done with the specimens after the Native Hawaiian cultural practice is complete?

4c. Will organisms be kept alive after collection? ☐ Yes ☐ No

• Specific site/location:

• Is it an open or closed system? ☐ Open ☐ Closed

• Is there an outfall? ☐ Yes ☐ No

• Will these organisms be housed with other organisms? If so, what are the other organisms?

• Will organisms be released?

NOTE: Any Monument resource harvested from the Monument for the purpose of Native Hawaiian practices will be consumed in the Monument.

5. Are you collaborating with others in any way to reduce duplicative activities in the Monument or elsewhere?

6. Gear and materials:

7. Will you erect any Native Hawaiian cultural structures or leave any offerings in the Monument? ☐ Yes ☐ No

If so, please describe:

8. Will you produce any publications, educational materials or other deliverables? ☐ Yes ☐ No

Provide a time line for write-up and publication of information or production of materials:

Appendix D: Recreation Application

For Activities in the Midway Atoll Special Management Area Only

1. Please explain how the activity is for the purpose of recreation as defined: An activity conducted for personal enjoyment that does not result in the extraction of Monument resources and that does not involve a fee-for-service transaction:

2. Other Associated Monument Permits:

3. Gear and materials:

4. Fixed installations and instrumentation:

Appendix E: Special Ocean Use Application

NOTE: If this is a first time Special Ocean Use activity, it will be subject to a pilot project.

1. Please provide proof of general liability insurance, or indicate that you will be posting an equivalent bond against claims arising out of activities conducted under the permit:

2. Are you collaborating with others in any way to reduce duplicative activities in the Monument or elsewhere?

3. Gear and materials:

4. Fixed installations and instrumentation:

5. List all publications directly related to the proposed project:

For projects occurring with the Midway Atoll Special Management Area answer the following questions:

6. Please explain how your activity has been found compatible with the purposes for which the Midway Atoll National Wildlife Refuge was designated?

7. Please explain how your activity meets the requirement of furthering conservation and management of the Monument:

For projects occurring outside of the Midway Atoll Special Management Area answer the following questions:

8. Please explain how the proposed activity will directly benefit the conservation and management of the Monument:

9. Please explain how the purpose of the proposed activity is for research and education related to resources or qualities of the Monument:

NOTE: SPECIAL OCEAN USE PERMITS OUTSIDE THE MIDWAY ATOLL SPECIAL MANAGEMENT AREA DO NOT ALLOW THE USE OF A COMMERCIAL PASSENGER

VESSEL. A commercial passenger vessel is defined by the monument regulations as a vessel that carries individuals who have paid for such carriage.